

April 20, 2005

Mark Sielski  
Project Manager  
Foster Wheeler Environmental Corporation  
1000 The American Road  
Morris Plains, NJ 07950

Dear Mr. Sielski:

RE: Draft Supplemental Remedial Investigation Report for the Former Magna Metals Site  
(NYSDEC Site No. 360003) Town of Cortlandt, Westchester County, New York, dated  
August 2004

The Department has received and reviewed the above-mentioned document and has additional comments and concerns. There are several different media of concern at this site including soils, sediments, groundwater, and soil gas. Each one of these media will be addressed separately.

#### Soils

1. The soils below and surrounding the leach pits exceed the NYS Soil Cleanup Criteria and are a continuing source of contamination to groundwater, surface water, and sediments downgradient of the site. However, the full extent of soil contamination has not yet been determined nor has the configuration and location of the entire network of leach pits been fully determined. Review of the leach pit data shows that the depth of contamination in some of the pits is unknown. Also, there most likely will be more contaminated soil associated with any newly discovered pits.

The Department strongly suggests that the leach pits and surrounding soils be remediated now by performing an Interim Remedial Measure (IRM) at the site. An IRM would allow for a faster remediation of the contaminated materials and reduction of source material. Depending on the selected method (e.g., soil and leach pit excavation and off site disposal), commencing an IRM might obviate the need for an engineering evaluation of multiple remediation technologies (i.e., a feasibility study) for the remediation of the leach pits. The full extent of the soil contamination and leach pit configuration needs to be determined and this could be done while performing an IRM. An IRM could be completed before a Record of Decision (ROD) was signed.

The other option, should ISC choose not to perform an IRM, is to continue the investigation of soils to determine the full extent of the contamination by performing additional round(s) of field sampling. This would include, among other items, reexamining the leach fields and determine the full extent of the network and sample any remaining vessels. All of this would have to be completed before a remedial action was selected by the Department and a ROD was signed. After the ROD is signed, ISC would have to perform the soil remediation method selected by the Department.

Regardless of whether the IRM is done, as stated above, the full extent of the soil contamination has not yet been determined. This includes both soils surrounding the pits and surface soils. Some of the surface soil samples show elevated levels of several metals, notably chromium, copper, and arsenic. Additional sampling must be done to determine the lateral and vertical extent of that contamination.

#### Groundwater

2. MW-4 and MW-4D show significant levels of trichloroethylene in the groundwater. Monitoring wells MW-3 and MW-6 were installed on the site but are unable to be sampled. Additional monitoring wells need to be installed and sampled in order to determine the full extent of the contamination. Also, the source of that contamination must be located.

#### Soil Vapor

3. The detection of trichloroethylene in groundwater indicates that there is a potential for soil vapor intrusion for buildings near the site. A soil gas survey must be conducted in between the existing structure and the one story building to the south and buildings to the northeast.

#### Surface Water and Sediments

4. As discussed specifically in the comments below, the criteria selected for comparison in the report are not considered protective since these levels represent "severe effects" or "acute toxicity." The most stringent criteria should be used in the screening/investigation phases to identify locations with contaminants of concern (COCs). Enough information should be supplied in the RI which allows for the identification of a significant threat to the environment as prescribed in 6 NYCRR Part 375-1.4.
5. The surface water criteria used for comparison to surface water data in Table 4-4 are not the most stringent shown in TOGs 1.1.1. This must be corrected and the most stringent surface water criteria used for comparison.
6. Section 3.0 Physical Results of Investigation: Page 3-1 states: "The wetlands are not classified as New York State regulated wetlands." As per revisions made to the New York State Freshwater Wetlands Map effective 7-28-04, regulated wetland A-48, a Class 2 wetland, is adjacent to and/or contains a portion of the Magna Metals site. The Fish and Wildlife Impact Analysis, Section 1.2.1 Terrestrial Habitats (top of page I-2), needs to be modified to reflect the current status of the wetland. This wetland is regulated under Article 24 of Environmental Conservation Law, and subject to permit requirements under 6NYCRR Part 663.
7. Section 4.7.2 Sediment Metals Results, Figure 4-3, and Table 4-5B do not point out contaminant concentrations that exceed Lowest Effect Levels (LELs), as they use only Severe Effect Level (SEL) values as sediment criteria. Please refer to table 2 of NYSDEC "Technical Guidance for Screening Contaminated Sediments" and report any value that exceeds Lowest Effect Level criteria. Additionally, values should always be reported for Cu, Ni, Zn, As, Pb, and Cr regardless of their concentrations, since they can be site related.
8. Table 4-5A: The sediment criteria used in this table should be the lowest of the criteria concentrations for human health bioaccumulation, benthic aquatic life chronic toxicity or wildlife bioaccumulation. When several PAHs are present, a separate row, labeled Total PAHs, can be added. Data can then

be compared to a criterion value of 4 ppm (see page 33 of NYSDEC "Technical Guidance for Screening Contaminated Sediments").

9. Section 4.1 Applicable Criteria Levels refers to NYSDEC TAGM 4046: Determination of Soil Clean-up Objectives and Clean-up Levels (January 1994). The values contained in this document were derived to be protective of human health and groundwater. They are not derived for protection of wildlife. In addition to comparing soil samples to TAGM 4046, analytical results from surface soil samples should be compared to criteria obtained from the following: USEPA Region 4 Soil Screening Values - <http://www.epa.gov/region4/waste/ots/ecolbul.htm#tbl4> (then open the table 4 pdf), USEPA ECO-SSLs - <http://www.epa.gov/ecotox/ecossl/index.html> , Oak Ridge PRGs - <http://www.esd.ornl.gov/programs/ecorisk/documents/tm162r2.pdf> . Changes should be reflected in the figures and tables.
10. Appendix I, Section 1.5.1 Page I-7 states, "Furnace Brook and its tributaries adjacent to Magna Metals site have been classified by NYSDEC as Class B waters and are subject to Class C New York water quality standards." As depicted in 6NYCRR part 864.6, the Class B portions of Furnace Brook are subject to Class B standards, not class C standards as stated. A correction is needed.
11. Appendix I, Section 2.3.2 Page I-28 states, "The range in observed relative densities was . . . 5870 to 5087 individuals/m<sup>2</sup> from samples taken from the unnamed tributary (Table I-31)." This table, however, shows a relative density value of "0" at location BS15. A correction is needed.

Page I-36 needs to state how the "Site Specific No Observed Effect Concentrations (NOECs)" were derived.

Section 2.7.1.1 The NOECs used for Furnace Brook (nickel - 200.0 mg/Kg and copper - 415.0 mg/Kg) appear to have come from SD20 and SD22, neither of which were involved in toxicity testing. Please clarify how these values were derived.

Section 2.7.1.2 The NOECs used for Unnamed Tributary and North Wetland - Sediments (nickel - 143.0 mg/Kg and copper - 107.0 mg/Kg) appear to have come from SD16, which was not involved in toxicity testing. Please clarify how these values were derived.

In order to derive site specific NOEC's, there must be substantial data supporting such values. Hence, there are not enough data presented in this Remedial Investigation Report (RIR) to derive site specific NOEC's.

12. Appendix I, Section 2.7 Page I-35: The table in this section indicates stations that have been impacted based upon the given criteria. It does not, however, account for stations that are not represented by toxicity testing data. Based on the macroinvertebrate benthic survey, downstream location SD20 displayed the lowest relative density for Furnace Brook, yet was not labeled as impaired. Hence, this table does not necessarily report all impacted stations and should. Further investigation to provide comparable data from all stations would be required to rule out site related impacts at any location. Therefore, to determine which stations have or have not been impacted, there needs to be toxicity data, SEM/AVS ratios, macroinvertebrate benthic survey data, sediment chemistry data, and water chemistry data at each station. Minimally there needs to be macroinvertebrate benthic surveys as well as *Hyalella azteca* and *Chironomus tentans* toxicity tests performed for SD-22, SD-24, SD-25, and SD-26. Both species should be tested for survival, growth, and reproduction as described in the EPA document entitled "Methods for Measuring the Toxicity and Bioaccumulation of Sediment-associated Contaminants with Freshwater Invertebrates."

13. Figure 4-3. It is likely that the background samples SD-13 and SD-17 are within the area influenced by the Magna Metals site. According to the figure, SD-17 is within the same contour (320 ft) as the rest of the samples, suggesting that it may flood at high water. As such, for a sample to be considered background, it should be moved southeast (upstream) beyond the 320 ft contour line indicated on the figure. Background sample SD-13 is located in Furnace Brook within the wetland. This sample appears to be down-gradient from the site and may also be subject to contaminant deposition via the surrounding wetland. A Furnace Brook background location should be located much further upstream (at least 200 ft) to ensure that it is beyond the influence of site related contamination.
14. Figure 4-3. The data on this figure do not rule out contamination beyond the current sampling stations (i.e., downstream). Sediment sampling locations downstream of SD-26, upstream of SD-13, upstream of SD-17, and between SD-16 and SD-17 need to be added and tests performed including sediment chemistry, water chemistry, SEM/AVS ratios, macroinvertebrate benthic surveys, and toxicity tests as described in Item 8.
15. FWIA Table I-33 Sediment Toxicity Test Results. Each station should be compared to the laboratory control to test for statistically significant differences. This table summarizes sediment toxicity test results based partially upon the statistical analysis found in Appendix B. Appendix B compares the toxicity data to the "background" data (SD-13, SD-17) and not directly to the laboratory control for statistical analysis. Comparing data to data from areas not influenced by the site (SD-13 is likely a site influenced by Magna Metals since nickel, a site related metal, is above the criterion) is acceptable in addition to comparing all data to a laboratory control.

As indicated by the comments above, additional field work is necessary to complete the investigation. A work plan must be submitted to the Department in accordance with the consent order to address the Department's additional needs. If ISC proposes to complete an IRM to remediate the soil contamination, a work plan should also be submitted as described in the consent order to commence that process.

If you wish to discuss further any of these matters or have any questions, please call me at 518-402-9767.

Sincerely,

/s/

Sally W.W. Dewes, P.E.  
Environmental Engineer 2  
Bureau of Eastern Remedial Action  
Division of Environmental Remediation

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